

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau
 (10) International Publication Number  
WO 01/02425 A2
(43) International Publication Date  
11 January 2001 (11.01.2001)

PCT

(10) International Publication Number  
WO 01/02425 A2

(51) International Patent Classification: C07K 1/00

(21) International Application Number: PCT/CA00/00773

(22) International Filing Date: 29 June 2000 (29.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/140,988 29 June 1999 (29.06.1999) US

(71) Applicant (for all designated States except US): UNIVERSITY HEALTH NETWORK [CA/CA]; University of Toronto, 610 University Avenue, Toronto, Ontario M5G 2M9 (CA).

(72) Inventor: and

(75) Inventor/Applicant (for US only): PRIVE, Gil [CA/CA]; 266 Broadway Avenue, Toronto, Ontario M4P 1V9 (CA).

(74) Agents: VAN ZANT, Joan, M., et al.; Swabey Ogilvy Renault, Suite 1600, 1981 McGill College Avenue, Montreal, Quebec H3A 2Y3 (CA).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

## Published:

— Without international search report and to be republished upon receipt of that report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PEPTIDE CONJUGATES FOR THE STABILIZATION OF MEMBRANE PROTEINS AND INTERACTIONS WITH BIOLOGICAL MEMBRANES

(57) Abstract: The present invention provides a novel class of detergents referred to herein as lipopeptide detergents. Lipopeptide detergents comprise an amphipathic  $\alpha$ -helical peptide having a hydrophobic or neutral face and a hydrophilic face. To each end of this peptide is covalently linked an aliphatic hydrocarbon tail, these aliphatic tails being linked thereto such that they associate with the hydrophobic or neutral face of the peptide. Lipopeptide detergents can advantageously be used to stabilize membrane proteins in the absence of a phospholipid bilayer in a manner that preserves the native conformation and permits the subsequent crystallization thereof.